

## Complete Summary

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### GUIDELINE TITLE

Hernia.

### BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Hernia. Corpus Christi (TX): Work Loss Data Institute; 2006. 42 p. [38 references]

### GUIDELINE STATUS

This is the current release of the guideline.

It updates a previous version: Work Loss Data Institute. Hernia. Corpus Christi (TX): Work Loss Data Institute; 2005. 41 p. [37 references]

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Work-related hernias, including direct and indirect inguinal hernias and femoral hernias\*

\*Note: Indirect hernias and femoral hernias are rarely caused by work and are usually congenital.

### GUIDELINE CATEGORY

Diagnosis  
Evaluation  
Management  
Treatment

## CLINICAL SPECIALTY

Family Practice  
Internal Medicine  
Surgery

## INTENDED USERS

Advanced Practice Nurses  
Health Care Providers  
Health Plans  
Nurses  
Physician Assistants  
Physicians

## GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

## TARGET POPULATION

Workers with inguinal or femoral hernias

## INTERVENTIONS AND PRACTICES CONSIDERED

The following interventions/procedures were considered and recommended as indicated in the original guideline document:

1. Antibiotic prophylaxis when mesh is used (for hernia repair)
2. Laparoscopic repair (surgery)
3. Mesh repair (surgery)
4. Post-op ambulatory infusion pumps (local anesthetic)
5. Returning to work
6. Shouldice repair (surgery)
7. Surgery
8. Transverse incisions (surgery)
9. Work modifications/activity restrictions

The following interventions/procedures were considered, but are not recommended:

1. Physical therapy
2. Use of a truss (support) as a long-term treatment

## MAJOR OUTCOMES CONSIDERED

- Hernia recurrence
- Postoperative pain and other postoperative complications
- Time to return to work after surgery

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)  
Searches of Electronic Databases

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

### NUMBER OF SOURCE DOCUMENTS

Not stated

### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by quality within type of evidence:

- a. High Quality
- b. Medium Quality
- c. Low Quality

### METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses  
Systematic Review

### DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

### METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

### COST ANALYSIS

The guideline developers reviewed published cost analyses.

## METHOD OF GUIDELINE VALIDATION

Not stated

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

#### Initial Diagnosis

Direct inguinal hernias are common in the industrial setting. Indirect hernias and femoral hernias are rarely caused by work and are usually congenital. Hernias may be new (60%), recurrent (25%), or bilateral (15%).

#### Initial Evaluation

First visit: with Primary Care Physician MD/DO (100%)

- Determine the type of lifting episode or incident.
- Determine whether the problem is acute, sub-acute, chronic, or of insidious onset.
- Determine the severity and specific anatomic location of the pain.
- Assess the ability of the patient to lift, from no to full lifting ability.
- Determine any present medication.
- Determine any previous medical history, history of systemic disease, or history of previous hernia or related disability.
- Obtain history of any previous inguinal discomfort or previous hernia repair.
- Investigate non-industrial reasons that commonly exacerbate hernias (e.g., history of chronic cough associated with smoking, history of constipation with straining at stool, and any symptoms of prostatism leading to straining at urination). Note that it is very uncommon for hernias to occur as a result of a fall.
- Obtain family history regarding hernia.

Presumptive Diagnosis (see original guideline document for ICD-9 codes)

- Direct or Indirect Inguinal Hernia
- Femoral Hernia
- Umbilical Hernia
- It is unnecessary to differentiate between direct and indirect inguinal hernias; both are treated surgically with similar techniques.
- Examine the patient in the standing position and determine the presence or absence of a hernia impulse on coughing or straining.
- If a hydrocele is suspected, use transillumination: a hydrocele will transilluminate; a hernia will not. A hydrocele is not usually industrially compensable.

- If a hernia is found, examine the patient in the supine position to ascertain whether it is reducible.
- An irreducible hernia is not always strangulated. In the standing position, an irreducible hernia will increase in size with straining while a strangulated one will not. There will be other signs and symptoms with strangulation, including the presence of a firm, painful, tender mass in the inguinal region, which is irreducible. It may be associated with signs of bowel obstruction, fever, and elevated white blood cell count.
- Examine for signs of a Richter's hernia
- Imaging techniques such as magnetic resonance imaging (MRI), computed tomography (CT) scan, and ultrasound are unnecessary except in unusual situations.
- Examine the opposite inguinal (femoral) region for signs of bilaterality.
- Classify the hernia into one of the following diagnoses:
  1. Reducible hernia
  2. Irreducible non-strangulated hernia
  3. Suspected strangulated or Richter's hernia (strangulated hernia in which only a part of the caliber of the gut is involved)

### Initial Therapy

1. Reducible Hernia
  - Surgery is not emergent.
  - Consider symptom control with an elastic support or truss, if effective, on a temporary basis (not recommended as a long-term treatment).
  - Otherwise, refer for surgical consultation.

#### Official Disability Guidelines (ODG) Return-To-Work Pathways

Without surgery (truss), light work: 0 days

Note: No time is recommended for heavy work since the truss is not recommended as a long-term treatment.

2. Irreducible Hernia (Not Strangulated or Richter's)

The treatment of irreducible hernia is surgical, and referral to a surgeon is appropriate.

3. Suspected Strangulated or Richter's Hernia

These are emergent conditions and require prompt referral to a surgeon.

### Surgery

- Performed by General Surgeon (95%), Specialist (5%)
- Urgent repair is required for a sudden, non-reducible hernia or a chronically incarcerated hernia that becomes acutely painful or tender, as this indicates impending strangulation.
- Repair of almost all groin hernias is recommended. Inguinal hernias should ultimately be repaired because they enlarge over time, leading to a more

- difficult repair and higher risk of complications or recurrence. Femoral hernias should always be repaired because of the high incidence of bowel strangulation. Patients with groin hernias should undergo surgical evaluation within a month after detection.
- The three basic approaches are: (1) open repair (the traditional repair, utilizing the patient's own tissue), (2) open tension-free repair using mesh (in which mesh is used to bridge or cover the defect), and (3) laparoscopic repair, a tension-free repair also utilizing mesh. Open techniques of hernia repair can be performed under local, regional, or general anesthesia, while laparoscopic hernia repair requires general anesthesia. Advanced laparoscopic training is required for laparoscopic hernia repair.
  - For repair of primary inguinal hernia, open (mesh) should be the preferred surgical procedure, unless the surgeon is experienced in the laparoscopic technique.

#### ODG Return-To-Work Pathways

With open surgery, clerical/modified work: 14 days

With open surgery, manual work: 21-28 days

With open surgery, heavy manual work: 42-56 days

(See ODG Capabilities & Activity Modifications for Restricted Work under "Work" in the Procedure Summary of the original guideline document)

- For the repair of recurrent and bilateral inguinal hernia, laparoscopic surgery should be considered. Laparoscopic surgery for inguinal hernia should only be undertaken in those units with appropriately trained operating teams which regularly undertake these procedures.

#### ODG Return-To-Work Pathways

With endoscopic surgery, clerical/modified work: 7 days

With endoscopic surgery, manual work: 14 days

With endoscopic surgery, heavy manual work: 28 days

- Surgery should be performed on an outpatient basis in most cases.

#### CLINICAL ALGORITHM(S)

None provided

### EVIDENCE SUPPORTING THE RECOMMENDATIONS

#### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The type of evidence associated with each recommended or considered intervention or procedure is ranked in the guideline's annotated reference summaries.

Ranking by Type of Evidence:

1. Systematic Review/Meta-Analysis
2. Controlled Trial-Randomized (RCT) or Controlled
3. Cohort Study-Pro prospective or Retrospective
4. Case Control Series
5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from [www.guideline.gov](http://www.guideline.gov))
7. State Treatment Guideline
8. Foreign Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of the many professional groups involved in diagnosing and treating work-related hernias.

### POTENTIAL HARMS

Postoperative pain and other postoperative complications

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

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### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2003 (revised 2006)

### GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

### SOURCE(S) OF FUNDING

Not stated

### GUIDELINE COMMITTEE

Not stated

### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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### GUIDELINE AVAILABILITY

Electronic copies of the guideline: Available to subscribers from the [Work Loss Data Institute Web site](#).



Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; [www.worklossdata.com](http://www.worklossdata.com).

#### AVAILABILITY OF COMPANION DOCUMENTS

Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the [Work Loss Data Institute Web site](#).

#### PATIENT RESOURCES

None available

#### NGC STATUS

This summary was completed by ECRI on February 2, 2004. The information was verified by the guideline developer on February 13, 2004. This NGC summary was updated by ECRI on March 28, 2005, January 3, 2006, and April 6, 2006.

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